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# Jurupa Community Services District 2005 Urban Water Management Plan Contact Sheet

Date plan submitted to the Department of Water Resources: **10/31/05**

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The Water supplier is a: **Special District**

The Water supplier is a: **Retailer**

Utility services provided by the water supplier include: **Potable Water,  
Wastewater, Non-Potable Water for Irrigation**

Is This Agency a Bureau of Reclamation Contractor? **No**

Is This Agency a State Water Project Contractor? **No**

# **Jurupa Community Services District**

## **JCSD History**

The Jurupa Community Services District (District) was formed in 1956 for the purpose of installing a sewer system within the community of Jurupa.

In 1960, the District's first general manager and secretary were hired. General Obligation bonds were sold to finance the sewer distribution system and a treatment plant, which were completed in 1961. As the District became more of an operating entity within the community, the local citizens began to request the Board of Directors to solve other problems, the most important one being a good water supply. A study was completed which recommended the sale of Water Revenue bonds to finance the consolidation and improvement of three existing water companies in the Jurupa area.

These three companies were the Jurupa Heights Water Company, the La Bonita Mutual Water Company and the Monte Rue Acres Mutual Water Company. This transaction and improvement of the water system took until 1966.

In 1965 an administration building was built and completed at 8621 Jurupa Road. In response to citizens' requests, the Board of Directors ordered a park and recreation plan prepared for facilities to be constructed on the District property at Jurupa Road, which was achieved through local citizens' volunteer help. The facilities built were a picnic area, a baseball diamond, fencing, sprinkler system, lawns and trees planted.

During this time, the water and sewer system were being expanded and the purchase of other small water companies, including the Sunnyslope Water Company from the Rubidoux Community Services District.

In 1972, a State and Federal mandated regional wastewater treatment plant, including Rubidoux Community Services District, Jurupa Community Services District and the City of Riverside, were ordered to consolidate their wastewater treatment facilities into one location, the existing Riverside Treatment Plant located on Acorn Street in Riverside.

Federal funding was used to acquire more property for parks and recreation including the Knowles Field and the Community Center building on Pedley Road. This was only achieved by a great deal of volunteer assistance from the local citizens (In 1984 the Parks Department split from the District and the separate Jurupa Area Recreation and Parks District was formed).

In 1979, a large project was completed which consisted of the construction of three new reservoirs, six miles of transmission pipeline, four new wells and one new booster station. Also included was a large pump station and sewer interceptor line from the District's wastewater treatment plant to the new regional wastewater treatment plant at the City of Riverside's Acorn Street location. Also in 1979, an agreement was entered into with a local property owner to build a sewage treatment plant, which would provide reclaimed water to irrigate a golf course centering a large residential development called Indian Hills.

Since then the District has grown, through annexation, from 26 square miles to 48 square miles, from 1,500 water connections to 22,000 water connections and services a population of approximately 70,000. The District also provides water, through inter-ties, to its neighboring water agencies of the City of Norco and the Santa Ana River Water Company.

### **JCSD History, Cont'd**

In 1986/87, representatives of the Riverside County approached the District's then general manager, and inquired if it would be interested in taking the lead agency position on the formation of a special assessment district located in north Mira Loma, where bonds would be sold to provide funding for the infrastructure of water, sewer, flood control and street improvements to enable the area of 1,900 acres to develop.

This area is known as the Community Facilities District No. 1 (CFD) and in 1992 the property owners voted to expand the boundaries from 1,900 acres to 3,000 acres with authority for bonded indebtedness of \$90,000,000. This CFD area has proved to be a very sought after area for large distribution outlets for national companies which brings development and jobs to the community.

The District also administers an illumination district, Lighting Maintenance Districts and Landscape Maintenance Districts (special assessment districts) placing charges on the property tax bills to cover the energy charges of the streetlights and the operation and maintenance of landscaping within public rights-of-way throughout the District's service area.

In 1992/93, the Board of Directors, recognizing a need to eradicate the growing blight of graffiti within the District's service area authorized the formation of the Graffiti Abatement Program through the Landscaping and Lighting Maintenance Act, 1972. This assessment district has been very successful, not only in eradicating the graffiti, but also in keeping the costs down to the property owners.

In 1996, the District formulated and approved a Park Plan for a portion of its service area known as the Eastvale area. Community Facilities Districts (CFDs) have been, and are continuing to be, formed to provide the financing mechanism for acquisition and improvement of the parkland and also to provide for the ongoing maintenance. There are 19 CFDs that have been formed to date. These CFDs will fund approximately 400 acres of community and neighborhood parks, some of which are in different stages of development.

In 2002 the District sold the administration building located at 8621 Jurupa Road and relocated administration and operations to the newly purchased and renovated buildings at 11201 Harrel Street in Mira Loma.

The Eastvale area is a developing area that is expected to add a further 22,000 connections to the District with an expected population of 66,000+. Currently, there are approximately 8,326 occupied dwellings in the Eastvale area, 36 tracts currently under development and the District has issued water and sewer availability letters for approximately 8,020 additional residences that are anticipated to be built within the next two years.

The Board of Directors and Staff, in order to ensure a continuing supply of good quality water for current citizens and also future development, participated in a Joint Powers Authority (JPA) with other neighboring water purveyors and purchased a recently constructed desalinization plant located in the neighboring county of San Bernardino. This Desalter Plant has been expanded from 8MGD to 13MGD and a second Desalter Plant is being constructed on the District's Administration/Operations facility and expected to be on-line December 2005.

### **JCSD History, Cont'd**

Production from both Desalters is expected to be 23MGD and will comprise of approximately 27 wells. The District manages the operation of one of the Desalters for the JPA. The District has also current constructed the first of two phases of an ion exchange Plant, with a total capacity of 19 MGD at a total cost of approximately \$10 million.

The District is part of a Joint Powers Authority for a regional wastewater treatment plant located within its service area. This Plant's capacity is currently 8 MGD with the ability to expand to 24 MGD. The District is currently constructing a 17MGD lift station at the plant as well as major sewer main lines to the Plant at a cost of approximately \$13 million.

The District currently has 15 potable wells and 5 irrigation wells, 7 booster stations, 15 reservoirs with a 39 million-gallon capacity. Potable water connections are at approximately 22,000 and there is also a small irrigation water system located in the Sunnyslope area. The District provides 20,500 residences with sewer service. The District employs 72 employees.

The 2005 Board of Directors and Management Staff are as follows:

**Directors:**

Kenneth McLaughlin  
Jack Smith  
James Huber  
Paul Hamrick  
Curtis Hummel

**General Manager &  
Secretary of the Board**

Carole McGreevy

**Project Manager  
Finance Manager  
Administration Manager  
Operations Manager  
Engineer  
District Counsel**

Umesh Shah  
Ken Waring  
Cheryl Russell  
Charles E. Smith  
Sam Gershon, Albert A. Webb Associates  
Richard Anderson, Best, Best & Krieger

## **Public Participation**

### **Law**

10642. Each urban water supplier shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the service area prior to and during the preparation of the plan. Prior to adopting a plan, the urban water supplier shall make the plan available for public inspection and shall hold a public hearing thereon. Prior to the hearing, notice of the time and place of hearing shall be published. After the hearing, the plan shall be adopted as prepared or as modified after the hearing.

### **Public Participation**

The Jurupa Community Services District has actively encouraged community participation in its urban water management planning efforts since the first plan was developed in 1985. Public forums were held on the 1985, 1990, 1995, 2000 and 2005 plans.

For this update to the Urban Water Management Plan, a formal public session was held for review and comment on the draft plan before the Board of Director's approval. Public interest groups that participated in the development of the plan are listed in Appendix A.

Legal public notices for each meeting were published in the local newspapers, posted at District facilities. Copies of the draft plan were available at District offices.

### **Plan Adoption**

The Jurupa Community Services District prepared this update of its Urban Water Management Plan during fall 2005. The updated plan was adopted by The Board of Directors in December 2005 and submitted to the California Department of Water Resources within 30 days of Board approval. Attached to the cover letter addressed to the Department of Water Resources and as Appendix B are copies of the signed Resolution of Plan Adoption. This plan includes all information necessary to meet the requirements of California Water Code Division 6, Part 2.6 (Urban Water Management Planning).

## **Agency Coordination**

### **Law**

10620 (d) (2) Each urban water supplier shall coordinate the preparation of its plan with other appropriate agencies in the area, including other water suppliers that share a common source, water management agencies, and relevant public agencies, to the extent practicable.

### **Coordination Within the District**

District Engineers, Management and field staff met and coordinated the development of this plan with the operations and finance departments.

Annually JCSD District Engineers, Management, Operations, Field and Finance Departments meet about the outlook on the water supplies for the District for the next 12 months. In the event of a

## JURUPA COMMUNITY SERVICES DISTRICT 2005 URBAN WATER MANAGEMENT PLAN

declared water shortage, the District has adopted a policy to establish a moratorium on construction water and new water service connections. See Appendix C.

The Jurupa Community Services District's Water, Administrative and Finance Departments completed a study in July 2005, which examined and forecasted reliable water supplies and demands for the District to 2030. Data from this study were utilized in this document. The Jurupa Community Services Districts (District) developed a digitized map of the District, which include all water agency service area boundaries, the potable, non-potable water, and wastewater distribution systems, and other water system features.

### **Interagency Coordination**

The Jurupa Community Services District is a member agency of the Chino Basin Groundwater Basin. All water sources for the Jurupa Community Services District are shared in common with other urban and agricultural interests in the area. The District therefore coordinated the development of this plan with the following agencies:

- The City of Norco
- Chino Basin Desalter Authority
- Rubidoux Community Services District
- Santa Ana River Water Company
- Watermaster for the Chino Groundwater Basin and parties to the adjudication
- Other local public agencies, including Riverside County Health Services, Planning, Fire, and Building Departments; Office of Emergency Services; District of Norco; Western Municipal Water District and the Riverside-Corona Resource Conservation District.

Table 1 summarizes the efforts the District has taken to include various agencies and citizens in its planning process.

<b>Table 1. Coordination and Public Involvement</b>						
<b>Entities</b>	<b>Coordination and Public Involvement Actions</b>					
	<b>Helped write the plan</b>	<b>Was contacted for assistance</b>	<b>Was sent a copy of the draft</b>	<b>Commented on the draft</b>	<b>Attended public meetings</b>	<b>Was sent a notice of intention to adopt</b>
Wholesaler		*	*			*
Retailers						*
Wastewater Agency						*
Special Interest Groups						*
Citizen Groups		*				
General Public		*				
Public Library						*
Other		*	*			*

## Supplier Service Area

### Law

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631. (a) Describe the service area of the supplier, including current and projected population, climate, and other demographic factors affecting the supplier's water management planning. The projected population estimates shall be based upon data from the state, regional, or local service agency population projections within the service area of the urban water supplier and shall be in five-year increments to 20 years or as far as data is available.

### Climate

The District has a desert climate. Summers are hot and dry, and winters are cool, with an annual average of 13 inches of precipitation. The region is subject to wide variations in annual precipitation, and also experiences periodic fires in the local hills.

Deviation from the average annual precipitation was experienced in 1998 due to the El Nino conditions for the western United States, and also again in 2004/2005. Total rainfall for these years was 26.9 inches, and 28.4 inches respectfully.

### Other Demographic Factors

The District is located in the western portion of Riverside County. It occupies an area of about 42.1 square miles (26,900 acres). Formation of the District occurred in 1956, and water service is provided to all residential, commercial, industrial, and agricultural customers, and for environmental and fire protection uses.

The first commercial activity in the area was cattle grazing and dairy farming, but due to the temperate climate, vineyards and orchards soon followed. In the early days, groundwater was the major water supply, since there were few year-round springs, creeks, or rivers. Enough naturally occurring recharge meant the groundwater was sufficient to meet the needs of the area.

As the population increased in the District's service area and region, the demand for water also increased. Groundwater levels dropped, nitrate and TDS levels within the watershed started to erode the water quality, and it became evident that the groundwater if left untreated was insufficient to meet growing needs. The Chino Basin was adjudicated in 1978 to prevent further declines in groundwater levels and to manage the basin. The basin has 140,000 acre-feet of safe yield.

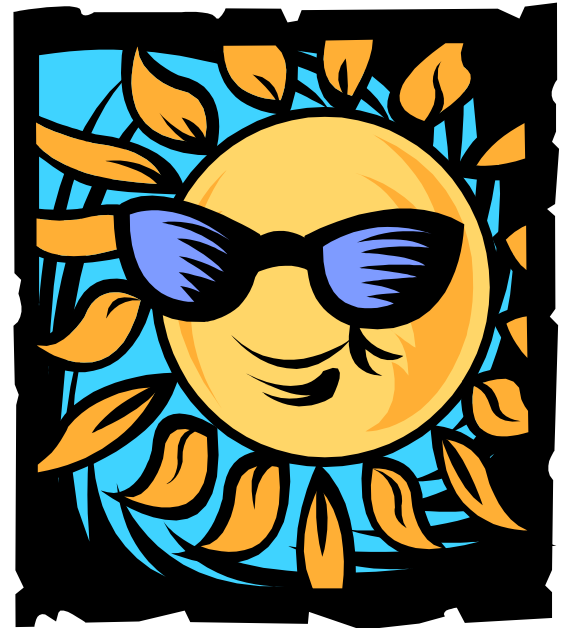


Table 2 shows the population total for the District from 2005, with projections to 2025.

<b>Table 2. Population Projections</b>					
	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>
Service Area Population	70,000	87,600	94,800	101,500	101,500

### **Past Drought, Water Demand, and Conservation Information**

The local region experienced a prolonged drought from 1987 through 1992. The District met its customers' needs through careful management of groundwater and by the community responding to voluntary conservation measures during 1990-92, 1998-2004

Since 2000, new water demand has had a growth rate of about 10-12% per year (Table 5), due in part to the continued conservation efforts and in part to the region's economy. From 1996 to 2005, the population increased by 20,000 full year residents, to a current population of 70,000 and new water demand has kept pace with the growth. The District continues to have a modest but growing industrial sector. The commercial sector is increasing more rapidly due to the improved economy.

Water conservation is one of several high priority policies actively implemented in the District, and programs such as ultra-low flush toilet replacements, and school education programs are well accepted.

## Water Sources (Supply)

### Law

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631 (b) Identify and quantify, to the extent practicable, the existing and planned sources of water available to the supplier over the same five-year increments to 25 years or as far as data is available.

### Water Supply Sources

The District fortunately has a variety of water sources, including: groundwater, imported. The District has potential for additional supplies from sources outside the basin for either short or long-term water transfers.

Table 3. Current and Projected Water Supplies Available					
Water Supply Sources	2005	2010	2015	2020	2025
Purchased from Chino Basin Desalter I <sup>2</sup>	3,200	3,200	3,200	3,200	3,200
Purchased from Chino Basin Desalter II	0	5,000	5,000	5,000	5,000
Transfer from Rubidoux	500	500	500	500	500
District produced groundwater	18,137	19,029	22,029	24,029	26,029
Imported	1,000	2,500	5,000	5,000	5,000
Exchanges In	0	0	0	0	0
Recycled Water <sup>1</sup>	0	0	0	0	0
Other	0	0	0	5,000	10,000
Total	23,337	26,229	35,729	42,729	49,729
Units of Measure: Acre-feet/Year- Years represent: Calendar Year					
<sup>1</sup> Recycled water supply figures are in the Water Recycling Section of this plan.					

### Groundwater

The District's current groundwater production is about 18,137 acre-feet per year (AFY) from fourteen wells owned by the District (Table 3). The Chino Groundwater Basin was adjudicated in 1978; the District is a party to the adjudication. There has been some Nitrate and TDS intrusion into the Basin, from previous dairy and agricultural users, but water quality is within standards set for acceptable drinking water by the Federal Government and the California Department of Health Services. This has now been addressed by the completion of Chino Basin Desalter I, the construction of Chino Basin Desalter II and the District's Roger Teagarden Ion exchange plant.

<sup>2</sup> Desalter I began product delivery July 2000

## **Recycled Water**

The District is currently reviewing master plan design for the District and all new construction for Parks; reverse frontages are designed for reclaimed/recycle waters in mind (Wastewater treatment levels and suitable uses of recycled water are defined by the California Department of Health Services under California Administrative Code, Title 22, Division 4.)

Use of recycled water has gained wide support in the community, and there are irrigation, commercial landscapes, and industrial customers who would like to convert some or most of their water use to recycled water. Currently Jurupa Community Services District is working on a master plan for new construction to have the ability for recycled water from at least two (2) wastewater treatment facilities, which treat JCSD'S waste stream, to include infrastructure and facilities of approximately 5 MGD.

## **Reliability Planning**

### **Law**

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631 (c) Describe the reliability of the water supply and vulnerability to seasonal or climatic shortage, to the extent practicable.

10631 (c) For any water source that may not be available at a consistent level of use, given specific legal, environmental, water quality, or climatic factors, describe plans to replace that source with alternative sources or water demand management measures, to the extent practicable.

10631 (c) Provide data for each of the following:

(1) An average water year, (2) A single dry water year, (3) Multiple dry water years.

10632. The plan shall provide an urban water shortage contingency analysis, which includes each of the following elements, which are within the authority of the urban water supplier:

10632 (b) An estimate of the minimum water supply available during each of the next three-water years based on the driest three-year historic sequence for the agency's water supply.

### **Reliability**

The costs of demand management or supply augmentation options to reduce the frequency and severity of shortages are now high enough that the District must look carefully at the costs of unreliability to make the best possible estimate of the net benefit of taking specific actions, hence the term "reliability planning." Reliability is a measure of a water service system's expected success in managing water shortages.

To plan for long-term water supply reliability, planners examine an increasingly wide array of supply augmentation and demand reduction options to determine the best courses of action for meeting water service needs. Such options are generally evaluated using the water service reliability planning approach.

In addition to climate, other factors that can cause water supply shortages: are earthquakes, chemical spills, and energy outages at treatment and pumping facilities. Planners include the probability of catastrophic outages when using the reliability planning approach.

Reliability planning requires information about: (1) the expected frequency and severity of shortages; (2) how additional water management measures are likely to affect the frequency and severity of shortages; (3) how available contingency measures can reduce the impact of shortages when they occur.

## JURUPA COMMUNITY SERVICES DISTRICT 2005 URBAN WATER MANAGEMENT PLAN

The District used the Department of Water Resources' Bulletin 160-98 the California Water Plan Update, Chapters 7, 8 and 9, Options for Meeting Future Water Needs, in the development of the reliability comparison section.

### **Frequency and Magnitude of Supply Deficiencies**

The District, because it pumps from the Chino Basin with a safe yield in excess of 140,000 AFY and because of water treatment facilities (Desalters and Ion-exchange) has not experienced any long term supply deficiencies as of yet.

The current and future supply projections through 2025 are shown in Table 3. The future supply projections assume normal climate conditions.

### **Plans to Assure a Reliable Water Supply**

The future supply projections assume normal groundwater levels within the Chino Basin and the availability of contracted water supplies from the two Desalters, Rubidoux and JCSD'S Ion exchange plant, as well as interagency connections with other Districts and Municipalities. Recycled water is a reliable water source, because it is consistently available. The likeliest interruption would be as a result of loss of power or facility failure at the WWTP. Potable water can still be provided to all recycled water users through a backup system.

### **Reliability Comparison**

Table 4 details estimated water supply projections associated with several water supply reliability scenarios. For further information on the data, see Three-year Minimum Supply and Water Shortage Contingency Plan sections.

<b>Table 4. Supply Reliability</b>				
<b>Average/ Normal Water Year 2005 (Volume)</b>	<b>Single Dry Water Year (Volume)</b>	<b>Multiple Dry Water Years</b>		
		<b>Year 1 (Volume) 2005</b>	<b>Year 2 (Volume) 2006</b>	<b>Year 3 (Volume) 2007</b>
21,737	21,737 (0%)	21,737 (0%)	18,476 (15%)	18,476 (15%)
Unit of Measure: Acre-feet/Year				

### **Three Year Minimum Water Supply**

Based on experiences during the last or past drought, the District recognizes that it is better to enter into a water shortage alert early, at a minimal level, to establish necessary rationing programs and policies, to gain public support and participation, and to reduce the likelihood of more severe shortage levels later. As the District continues to become more water efficient, it may become more difficult for customers to reduce their water use during water shortages (this is called "demand hardening"). Staff does not believe that District customers are yet approaching demand hardening, because there are still large potential water efficiency improvements in residential plumbing fixtures, appliances, and landscapes, and in the commercial, industrial, and institutional sectors. However, improved water use efficiency does mean that water supply reserves must be larger and that water shortage responses must be made early to prevent severe economic and environmental impacts.

In April each year, the District forecasts 3-year minimum water supply availability for each of its sources of water, and projects its total water supply for the current and three subsequent years. Based on the water shortage stages and triggers a water shortage condition may be declared. The driest three-year historic sequence for the District's water supplies was from 1990 to 1992. Because shortages can have serious economic and environmental impacts, the District will make every effort to limit water shortages to no more than 25%.

## **Transfer or Exchange Opportunities**

### **Law**

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631 (d) Describe the opportunities for exchanges or transfers of water on a short-term or long-term basis.

### **Water Transfers**

The District currently receives up to 500 Acre feet of water a year available from Rubidoux Community Services District, and 1500 Acre Feet from Arlington Desalter, increasing to 3000 Acre Feet yearly upon Arlington Desalter expansion. Jurupa Community Services District also has pinned water purchase agreements with various CDA members to lease a portion of their contracted flows on an as needed and available basis.

## **Water Use Provisions**

### **Law**

10631. A plan shall be adopted in accordance with this chapter and shall do all of the following:

10631 (e) (1) Quantify, to the extent records are available, past and current water use, over the same five-year increments described in subdivision (a), and projected water use, identifying the uses among water use sectors including, but not necessarily limited to, all of the following uses:

(A) Single-family residential; (B) Multifamily; (C) Commercial; (D) Industrial; (E) Institutional and governmental; (F) Landscape; (G) Sales to other agencies; (H) Saline water intrusion barriers, groundwater recharge, or conjunctive use, or any combination thereof; and (I) Agricultural.

(2) The water use projections shall be in the same 5-year increments to 20 years or as far as data is available.

### **Past, Current and Projected Water Use**

Since 2000, new connections are being added at a rate of about 10-12% per year, but because of new plumbing efficiency standards, landscape guidelines, and other conservation programs, water demand is only increasing at a rate of about 8% per year. Unaccounted water losses average about <4% of total production. Table 5 illustrates Past, Current, and Projected Water Use 2000 - 2030 in acre-feet per year, and Table 6 illustrates Past, Current, and Projected connections 2005 - 2035 by customer type.

JURUPA COMMUNITY SERVICES DISTRICT 2005 URBAN WATER MANAGEMENT PLAN

**Table 5. Past, Current and Projected Water Use**

<b>Water Use Sectors</b>	<b>2000</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>
Single family residential	10,899	12,989	16,885	20,400	23,200	23,600	23,750
Multi-family residential	2,716	2,850	3,278	3,600	3,750	3,850	3,900
Commercial	2,098	2,410	2,772	3,000	3,000	3,200	3,300
Industrial	2,000	2,300	2,645	2,900	3,000	3,050	3,150
Institutional and governmental	401	455	525	600	800	850	850
Landscape	1,952	2400	2,700	2,900	3,000	2,900	2,900
Sales to other agencies	0	0	1,200	1,500	1,500	1,500	1,500
Hydrant Meters	987	800	350	150	100	76	50
Groundwater recharge (recycled water)	0	0	0	0	0	0	0
Conjunctive use	0	0	0	0	0	0	0
Unaccounted-for system losses	698	850	1,100	1,300	1,400	1,550	1,625
<b>Total</b>	<b>21,737</b>	<b>22,654</b>	<b>31,445</b>	<b>36,350</b>	<b>39,750</b>	<b>40,576</b>	<b>41,025</b>
Unit of Measure: Acre-feet/Year							
Years: Calendar Year							

**Table 6. Number of Connections by Customer Type**

<b>Customer Type</b>	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>	<b>2030</b>	<b>2035</b>
Single family residential	20,360	28,911	36,300	36,600	36,600	36,600	36,600
Multi-family residential	162	275	400	420	420	420	420
Commercial	253	350	475	475	475	475	475
Industrial	75	125	280	285	285	285	285
Institutional and governmental	20	40	65	65	65	65	65
Landscape/recreation		220	340	340	340	340	340
Hydrant Meters	80	74	50	20	20	20	20
Interties	1	3	4	4	4	4	4
Other (Recycle water)							
<b>Total</b>	<b>20,951</b>	<b>29,998</b>	<b>37,911</b>	<b>38,209</b>	<b>38,209</b>	<b>38,209</b>	<b>38,209</b>
Years: Calendar Year							

Under conservation, it became apparent that the District needed to improve its customer information base. Previously, the District identified and billed customers on the basis of street address and the meter size. The District was unable to easily distinguish an industrial customer (using water for food processing, for example), from a large landscape customer, from a hotel, from a hospital (with emergency water priority requirements to meet health and safety), nor from a large multi-family complex. Obviously, each would have different needs and different appropriate conservation efforts. Therefore, the District redesigned its water billing system, and now has classified the accounts by use class and can identify each customer by sector and usage category.

## **Residential Sector**

In the Jurupa Community Services District, single-family residential customers average 3.6 persons per connection. Multi-family residential customers average 3.1 persons per housing unit, and average 16 units per multi-family complex. Total system per capita water use (excluding agricultural water use) averages 7.24 gallons per capita per day. Water efficiency improvements appear to be reducing per capita water use, which will prevent a return to pre-drought levels.

Single and multi-family residential connections are projected to increase at about 8% per year over the next 20 years, but the efficiency improvements will significantly help offset the water demand of new customers.

## **Commercial Sector**

The District has a complex mix of commercial customers, ranging from markets, restaurants, antique stores, insurance offices, beauty shops, and gas stations to multi-story office buildings, outlet and regional shopping centers, and high-volume restaurants and other facilities serving the population. The sector is growing at about 7% per year, driven particularly by the need for services by the increasing permanent population. Businesses for the growing industry are also contributing. This trend is expected to continue through 2025.

## **Industrial Sector**

The District has a small industrial sector, primarily centered on warehouse distribution and light manufacturing. The industrial sector has not grown much in the last decade but has been growing at an increasing rate recently. It is expected to increase at about 1% in the next ten years.

## **Institutional/Governmental Sector**

The District has a stable institutional/governmental sector, primarily local government, schools, visitor serving public facilities, and hospital. This sector will keep pace with the growth of the District.

## **Landscape/Recreational Sector**

Landscape and Recreational customer demand is expected to increase approximately 4% per year for the next 20 years, due to continued growth in visitor-serving facilities, proposed golf courses. Increased efficiency and landscape conversions at existing parks, golf courses, should help offset new demand resulting from projected increases in this sector.

## Supply and Demand Comparison Provisions

### Law

10635 (a) Every urban water supplier shall include, as part of its urban water management plan, an assessment of the reliability of its water service to its customers during normal, dry, and multiple dry water years. This water supply and demand assessment shall compare the total water supply sources available to the water supplier with the total projected water use over the next 20 years, in five-year increments, for a normal water year, a single dry water year, and multiple dry water years. The water service reliability assessment shall be based upon the information compiled pursuant to Section 10631, including available data from the state, regional, or local agency population projections within the service area of the urban water supplier.

### Supply and Demand Comparison

Table 7 compares current, and projected water supply and demand. It indicates that in average precipitation years, the Jurupa Community Services District has sufficient water to meet its customers' needs, through 2010. This is based on continued commitment to conservation programs, additional water becoming available when the Desalter II comes online.

<b>Table 7 Projected Supply and Demand Comparison</b>					
	<b>2005</b>	<b>2010</b>	<b>2015</b>	<b>2020</b>	<b>2025</b>
Supply totals	21,737	33,229	38,000	40,200	42,500
Demand totals	22,654	31,445	36,350	39,750	40,576
Difference	(917)	1,784	1,650	450	1,924
Units of Measure: Acre-feet/Year					

In any one dry year, the District water supply is not significantly affected. In the second consecutive dry year, the District will probably need to enter into a Stage I water shortage response, which is voluntary conservation. In the third consecutive dry year, or in the event of a major system failure, the District may continue a Stage I water shortage response or move into a Stage II water shortage response. See the Water Shortage Contingency Plan and Three-year Minimum Water Supply sections and Table 8 for more detailed information.

Table 8 presents a supply and demand comparison where demand does not fluctuate in conjunction with a change in supply. The District is not affected significantly by dry weather conditions. The District receives its water from groundwater wells it operates. The District currently has standby wells it can operate during hot dry weather. With the District's participation in two Desalters there is the ability to expand both plants to provide additional water as demand is projected.

Table 8A, 8B, & 8C will detail how supply options and demand options can alter the outcome of a water shortage.

<b>Table 8 Single Dry Year and Multiple Dry Water Years</b>					
<b>Water Supply Sources</b>	<b>Current Supply 2005 (Volume)</b>	<b>Single Dry Water Year (Volume)</b>	<b>Multiple Dry Water Years</b>		
			<b>Year 1 (Volume)</b>	<b>Year 2 (Volume)</b>	<b>Year 3 (Volume)</b>
Supply totals	22,110	22,110	22,110	22,110	22,110
Percent Shortage		0%	0%	15%	15%
Demand totals	18,811	18,811	18,811	18,793	18,793
Difference	1,695	1,695	1,695	3,317	3,317
Unit of Measure: Acre-feet/Year					

Table 8A modifies the comparison by increasing the supply available for use with increase groundwater pumping in previous years where demands did not equal the available supply. Demand remains the same as in Table 8. This analysis demonstrates that changes in supply are more than sufficient to meet the demand in a water shortage.

<b>Table 8A Reliability and Comparison with Supply Options</b>					
<b>Water Supply Sources</b>	<b>Average / Normal Water Year</b>	<b>Single Dry Water Year</b>	<b>Multiple Dry Water Years</b>		
			<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Supply totals	23,623	23,623	23,623	23,623	23,623
Demand totals	21,042	21,042	21,042	21,042	21,042
Difference	2,581	2,581	2,581	2,581	2,581
Unit of Measure: Acre-feet/Year					

Table 8B modifies the comparison by implementing demand management measures and other consumption reductions methods. This comparison holds supply at the same level as Table 8. This analysis demonstrates that the use of conservation measures is sufficient to completely meet the demand during a water shortage.

<b>Table 8B Reliability and Comparison with Demand Options</b>					
<b>Water Supply Sources</b>	<b>Average / Normal Water Year</b>	<b>Single Dry Water Year</b>	<b>Multiple Dry Water Years</b>		
			<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Supply totals	22,110	22,110	22,110	19,076	19,076
Demand totals	18,811	18,811	18,811	16,438	16,438
Difference	3,299	3,299	3,299	638	638
Unit of Measure: Acre-feet/Year					

Table 8C modifies the comparison by increasing supply and modifying water user habits through conservation measures. It demonstrates that most circumstances of shortage can be planned for. However, effort should be devoted towards securing additional supplies during a catastrophic supply reduction.

<b>Table 8C Reliability and Comparison with Supply and Demand Options</b>					
<b>Water Supply Sources</b>	<b>Average / Normal Water Year</b>	<b>Single Dry Water Year</b>	<b>Multiple Dry Water Years</b>		
			<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>
Supply totals	22,110	17,610	22,410	18,910	18,910
Demand totals	21,194	19,074	19,074	18,015	18,015
Difference	916	(1,464)	3,336	895	895
Unit of Measure: Acre-feet/Year					

Active water efficiency improvements and additional water supply may be necessary to meet the District's projected water demand. The District has continued to examine supply enhancement options, including water recycling, groundwater recharge, conjunctive use, water transfers, desalination and additional imported water supplies from Metropolitan Water District, Western Municipal Water District (Arlington Desalter) City of Norco Chino Basin Allotments temporary and long term, as well as City of Chino Hills allotments, drilling of additional wells in various zones within Jurupa Community Services District boundaries for domestic use, and activating stand-by wells. Other water management options will also be considered. See the Water Shortage Contingency Plan section for further information.

## **Best Management Practices**

### **Law**

10631 (f) Provide a description of the supplier's water demand management measures. This description shall include all of the following:

(1) A description of each water demand management measure that is currently being implemented, or scheduled for implementation, including the steps necessary to implement any proposed measures, including, but not limited to, all of the following:

The District is committed to implementing water conservation and water recycling programs. This Section discusses water conservation.

As mentioned in the cover letter to this Plan, the Jurupa Community Services District is a signatory to the Memorandum of Understanding regarding Urban Water Conservation in California (MOU) and is therefore a member of the California Urban Water Conservation Council (CUWCC). The following are just some of the benefits of being a member of the CUWCC: conferences, BMP workshops, free publications, research regarding water management practices, leadership on water legislation and networking with other agencies and interest groups.

For the purpose of responding to the Urban Water Management Planning Act the District will address the 14 Best Management Practices (BMPs). Descriptions of the District's water conservation programs are below. The District has, in good faith, tried to address and comply with all of the BMP targets listed in the CUWCC MOU where applicable.

### **BMP 1 – Water Survey Programs for Single-Family Residential and Multi-Family Residential Customers**

**IMPLEMENTATION DESCRIPTION:** As a member agency of Western Municipal Water District (Western) the District's customers may participate in Western's conservation programs. Exterior water audits are available upon request and are done by the Riverside-Corona Conservation District's (RCD) Mobile Laboratory which western co-sponsors.

### **BMP 2 -- Residential Plumbing Retrofit**

**IMPLEMENTATION DESCRIPTION:** The District participates in the distribution of aerators, and toilet tank leak detection tablets at the District Office and during Water Awareness Month. At these events the District also emphasizes water use surveys and ultra-low flush toilet replacement programs (refer to BMP 1 and 14). The District has targeted 10% of the approximate 9,300 (465) pre-1992 single-family homes and 7,000 (350) multi-family homes every two years, and offers water efficient rebates for clothes washing machines within (WMWD) Westerns guidelines.

**IMPLEMENTATION SCHEDULE:** The District distributes toilet tank leak detection tablets and tank dams on a year-a-round basis.

## **BMP 3 -- System Water Audits, Leak Detection and Repair**

**IMPLEMENTATION DESCRIPTION:** The District has conducted water audits and leak detection and repair since 1991, as described in its 1990 Urban Water Management Plan. District staff has trained at AWWA-DWR co-sponsored training programs.

Since the District is located in an earthquake zone, it has permanently incorporated the system water audit and leak detection, and meter calibration (production and customer meters) programs into its utility operations.

In coordination with the fire department, the water department complies with recent amendments to California Code of Regulations Title 19, Division 1, Chapter 9, pertaining to standardization of fire hydrants and associated fire protection equipment. The District meets or exceeds minimum fire flow requirements, in accordance with California Water Works Standards.

**IMPLEMENTATION SCHEDULE:** The District has permanently incorporated this BMP into its operations and maintenance procedures. District crews will survey main and laterals on an on-going basis.

**METHODS TO EVALUATE EFFECTIVENESS:** The accounting staff annually review the data records to confirm that the unaccounted for water losses stay under 6%.

**CONSERVATION SAVINGS:** unaccounted water losses have been reduced to about 3% per year.

## **BMP 4 -- Metering with Commodity Rates for All New Connections and Retrofit of Existing Connections**

**IMPLEMENTATION DESCRIPTION:** The District is fully metered for all customer sectors, including separate meters for single-family residential, commercial, large landscapes, and all institutional/governmental facilities.

The District has an inclining multi-block rate structure. A billing unit is one hundred cubic feet (748 gallons), commonly abbreviated HCF or CCF. For rate information, see BMP 11.

Under guidelines developed in 1989, the District has required irrigation meters for all large landscape customers, to separate outside from interior water use. The metering was done in partnership with the District and the landowners and completed January of 1992. During water shortages, this will help develop equitable rationing allocations for non-residential customers with both interior and landscape uses.

**IMPLEMENTATION SCHEDULE:** The District will continue to install and read meters on all new services, and will continue to conduct its meter calibration and replacement program, recent data has indicated that a majority of the meters selected for verification has shown the District's meters are well within AWWA guidelines.

**METHODS TO EVALUATE EFFECTIVENESS:** Periodic review of customer water use, comparing current water use per capita with historic data.

**CONSERVATION SAVINGS:**

**BUDGET:** Meter installation costs are part of new service connection fees.

## **BMP 5 -- Large Landscape Conservation Programs and Incentives**

**IMPLEMENTATION DESCRIPTION:** Irrigation surveys are being conducted by Riverside-Corona Resource Conservation District.

**IMPLEMENTATION SCHEDULE AND METHODS TO EVALUATE EFFECTIVENESS:** The Riverside-Corona Resource Conservation Districts maintain these records.

**CONSERVATION SAVINGS:** Unknown

## **BMP 6 -- High-Efficiency Washing Machine Rebate Programs**

**IMPLEMENTATION DESCRIPTION:** The California Urban Water Conservation Council is currently evaluating the effectiveness of this BMP.

**IMPLEMENTATION SCHEDULE:**

**METHODS TO EVALUATE EFFECTIVENESS:**

## **BMP 7 -- Public Information Programs**

**IMPLEMENTATION DESCRIPTION:** The District as a member of the Water Education Advisory Council of Western Riverside County promotes water conservation and other resource efficiencies in coordination with other water agencies. The District distributes public information through bill inserts, brochures, community speakers, paid advertising, and many special events every year. District water bills were redesigned in 1997 to show gallons used per day for the last billing period compared to the same period the previous year (previously, the bill only indicated total billing period usage in billing units (one hundred cubic feet of water, which is 748 gallons).

The District formed Advisory Committee, to assist in developing new ways to communicate with the public and the media about water conservation and other resource issues, as well as posting of information on the Districts website JCSD.US.

**IMPLEMENTATION SCHEDULE:** The District will continue to provide public information services and materials to remind the public about water and other resource issues, and has added a contract dialer for immediate notifications by account phone numbers.

**METHODS TO EVALUATE EFFECTIVENESS:** The District will track the commentary regarding the information provided.

**CONSERVATION SAVINGS:** The District has no method to quantify the savings of this BMP but believes that this program is in the public's best interest and continues to support these measures.

## **BMP 8 -- School Education Programs**

**IMPLEMENTATION DESCRIPTION:** The District continues to work with the Water Education Advisory Council of Western Riverside County and the school district to promote water conservation and other resource efficiencies at school facilities and to educate students about these issues.

The District provides educational materials for K-12 grade levels, State and County water system maps, posters, workbooks, interactive computer software, videos, tours (for example, Eastside Reservoir and the surrounding watershed, water and wastewater treatment facilities), and sponsors

teachers' Project Water Education for Teachers (WET) training, science fairs, water conservation contests, and mini-grant program for educators.

WEAC, the District, and the school district cooperatively established a high school water management/ ultra-low flush toilet distribution program. Selected students attend a workshop on conservation and leadership. These students became team leaders of an ultra low flush toilet replacement program. The team leaders then recruit other students who encourage parents and neighbors to participate in the program. Toilets are made available at the High School on designated dates, and customers can install them within two weeks or request student assistance for installation. When old toilets are returned to the High School for recycling the school receives \$15 for each toilet installed.

**IMPLEMENTATION SCHEDULE:** The District will continue to implement this BMP at the levels described.

**METHODS TO EVALUATE EFFECTIVENESS:** The District will continue to survey the institutions and educators on the number of programs, materials and attendance at water conservation activities.

**CONSERVATION SAVINGS:** The District has no method to quantify the savings of this BMP but believes that this program is in the public's best interest.

## **BMP 9 – Conservation Programs for Commercial, Industrial and Institutional (CII) Accounts**

**IMPLEMENTATION DESCRIPTION:** For the last several years, the District has provided water use audits to any commercial/ industrial/institutional (CII) customer who so requested. The District recently complete a computerized analysis of all CII customers by monthly and annual water usage, to identify the top 10% of the commercial customers and the top 20% of the industrial and institutional customers. The majority of the Districts CII customers are newly developed projects completed after 1992 and are equipped with low flow urinals and water closets.

**IMPLEMENTATION SCHEDULE and CONSERVATION SAVINGS:** The District will continue to implement this BMP at the annual target rate for at least the next five years.

## **BMP 10 – Wholesale Agency Assistance Programs**

**IMPLEMENTATION DESCRIPTION:** The District is not a Wholesale Agency

**IMPLEMENTATION SCHEDULE:** N/A

**METHODS TO EVALUATE EFFECTIVENESS:** N/A

**CONSERVATION SAVINGS:** N/A

## **BMP 11 -- Conservation Pricing**

**IMPLEMENTATION DESCRIPTION:** The District has a tier rate structure for all customers.

Sewer service is provided by the District, which has a flat rate for all customer types, except industrial customers, which are monitored for water quality, metered, and charged according to quality and volume of discharge.

**METHODS TO EVALUATE EFFECTIVENESS:** Monitor the number of violators who use water in excess of their established allotment.

**CONSERVATION SAVINGS:** The incentive of this BMP is to decrease the customer's water costs and water use through price incentives as described above.

**BUDGET:** Not tracked

## **BMP 12 – Conservation Coordinator**

**IMPLEMENTATION DESCRIPTION:** The Operations Manager is the designated Water Conservation Coordinator.

**IMPLEMENTATION SCHEDULE:** The District has permanently incorporated this BMP into its Public Relation and Education programs

**METHODS TO EVALUATE EFFECTIVENESS:** Various District personnel patrols, water running in streets, and curbs is investigated.

**CONSERVATION SAVINGS:** Not quantified.

## **BMP 13 -- Water Waste Prohibition**

**IMPLEMENTATION DESCRIPTION:** The District established a voluntary water conservation ordinance in 1991. See Appendix C for the Ordinance.

**IMPLEMENTATION SCHEDULE:** The District has permanently incorporated this BMP into its ordinances.

**METHODS TO EVALUATE EFFECTIVENESS:** N/A.

**CONSERVATION SAVINGS:** The District has no method to quantify the savings of this BMP but believes that this program is in the public's interest.

## **BMP 14 -- Residential ULFT Replacement Programs**

**IMPLEMENTATION DESCRIPTION:** The District has distributed 2,000 ULFT through a high-school give a way program. The program was contracted using outside consultants in coordination with the local high school. The recycled toilets were used as crushed aggregate road base.

The District continues to offer rebates to customers, has established a direct installation program, and has provided toilets and urinals for installation at public facilities including schools, libraries, and fire department facilities. BMP 14 is also implemented in coordination with BMP 1, BMP 2, and BMP 8. The District considers its ULFT program to be exemplary, because nearly 40% of the non-conserving toilets in the District have now been replaced with ultra-low flush models.

**IMPLEMENTATION SCHEDULE:** The District will continue to implement this BMP until the District's goal is met: at least 80% of all non-conserving and low-flush model toilets in the District will be replaced with ultra-low flush models.

Table 9 ULFT Retrofit Program	
Year	# of ULFT Retrofits
1995	1,000
2000	1,000
2005	1,000e
e = estimate	

**METHODS TO EVALUATE EFFECTIVENESS:** The District will calculate annual ULFT replacement program water savings to confirm the savings are within 10% of calculated retrofit-on-resale water savings, using the CUWCC MOU Exhibit 6 methodology and water savings estimates. Exhibit 6 has become an industry standard for evaluation of ULFT replacement programs.

**CONSERVATION SAVINGS:** Unknown

# **Water Shortage Contingency Plan**

## **Preparation for Catastrophic Water Supply Interruption**

### **Law**

10632. The plan shall provide an urban water shortage contingency analysis, which includes each of the following elements, which are within the authority of the urban water supplier:

10632 (c) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

## **Water Shortage Emergency Response**

In 1991, in accordance with the requirements of Assembly Bill 11X, the water, fire, and emergency services departments developed a comprehensive water shortage contingency plan, which was incorporated into the District's Emergency Response Plan in early 1992. The District's plan is consistent with provisions in the County's Emergency Response Plan. Both plans contain procedures for the distribution of potable water in a disaster; these procedures are consistent with guidelines prepared by the California State Office of Emergency Services.

In addition, specific water-critical customers (such as hospitals, nursing facilities, schools, and a few individual customers with medical conditions dependent on continuous water availability) have been identified. Likely potable water distribution sites have been identified. Standby procurement documents have been developed for emergency bulk purchase of bottled water; standby arrangements have also been made with several local trucking firms to provide tankers to distribute potable water (certified by the California Department of Health Services for safe transportation of potable water). All existing water supply storage, treatment, and distribution, and wastewater treatment facilities are now inspected monthly.

Be assured that the District recognizes the importance of the BMPs in reducing water demand and would continue to implement the programs. Also, the District would increase media attention to the water supply situation during a shortage and would step up public water education programs, encourage property owners to apply for a landscape and interior water use survey and continue to advertise the importance of customers to install ULF plumbing fixtures.

During declared shortages, or when a shortage declaration appears imminent, the Operations Manager, who serves as chair, activates a water shortage response team. The team includes: water, fire, planning, health, emergency services, public affairs, parks and recreation. During a declared water shortage, the District will accept applications for will serve letters but will not issue letters until the shortage declaration is rescinded.

## **Supplemental Water Supplies**

To offset future potential water shortages due to drought or disaster, the District is considering the following supplemental water supplies.

## **Water Transfers**

See the Transfer or Exchange Opportunities section.

## **Long Term Additional Water Supply Options**

The following table summarizes the actions the water agency will take during a water supply catastrophe.

<b>Table 10 Preparation Actions for a Catastrophe</b>	
<b>Examples of Actions</b>	<b>Check if Discussed</b>
Determine what constitutes a proclamation of a water shortage.	✓
Stretch existing water storage.	✓
Obtain additional water supplies.	✓
Develop alternative water supplies.	✓
Determine where the funding will come from.	✓
Contact and coordinate with other agencies.	✓
Create an Emergency Response Team/Coordinator.	✓
Create a catastrophe preparedness plan.	✓
Put employees/contractors on-call.	✓
Develop methods to communicate with the public.	✓
Develop methods to prepare for water quality interruptions.	✓

## **Water Shortage Contingency Ordinance/Resolution**

### **Law**

10632. The plan shall provide an urban water shortage contingency analysis, which includes each of the following elements, which are within the authority of the urban water supplier:

10632 (h) A draft water shortage contingency resolution or ordinance.

## **Jurupa Community Services District Water Shortage Response**

### **Stages of Action**

#### **Law**

10632. The plan shall provide an urban water shortage contingency analysis, which includes each of the following elements, which are within the authority of the urban water supplier:

10632 (a) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply and an outline of specific water supply conditions which are applicable to each stage.

## Rationing Stages and Reduction Goals

The District has developed a three stage-rationing plan (see Table 11) to invoke during declared water shortages. The rationing plan includes voluntary and mandatory rationing, depending on the causes, severity, and anticipated duration of the water supply shortage.

Table 11 Water Rationing Stages and Reduction Goals			
Shortage Condition	Stage	Customer Reduction Goal	Type of Rationing Program
Up to 15%	I	15%	Voluntary
16 – 35%	II	35%	Mandatory
36 - 55%	III	55%	Mandatory

## Priority by Use

Priorities for use of available potable water during shortages were based on input from the District Emergency Response Team, citizen groups, and legal requirements set forth in the California Water Code, Sections 350-358. Water allocations are established for all customers according to the following ranking system:

- Minimum health and safety allocations for interior residential needs (includes single family, multi-family, hospitals and convalescent facilities, retirement and mobile home communities, and student housing, and fire fighting and public safety)
- Commercial, industrial, institutional/governmental operations (where water is used for manufacturing and for minimum health and safety allocations for employees and visitors), to maintain jobs and economic base of the community (not for landscape uses)
- Permanent agriculture (orchards, vineyards, and other commercial agriculture which would require at least five years to return to production).
- Annual agriculture (floriculture, strawberries, other truck crops)
- Existing landscaping
- New customers, proposed projects without permits when shortage declared.

Note: It is not expected that any potable water supply reductions could result in recycled water shortages.

## Health and Safety Requirements

Based on commonly accepted estimates of interior residential water use in the United States, Table 12 indicates per capita health and safety water requirements. In Stage I shortages, customers may adjust either interior or outdoor water use (or both), in order to meet the voluntary water reduction goal.

However, under Stage II and Stage III mandatory rationing programs, the District has established a health and safety allotment of 80 gpcd (which translates to 39 HCF per person per year), because that amount of water is sufficient for essential interior water with no habit or plumbing fixture changes. If customers wish to change water use habits or plumbing fixtures, 68 gpcd is sufficient to provide for limited non-essential (i.e. outdoor) uses.

**Table 12 Per Capita Health and Safety Water Quantity Calculations**

	<b>Non-Conserving Fixtures</b>		<b>Habit Changes <sup>1</sup></b>		<b>Conserving Fixtures <sup>2</sup></b>	
Toilets	6 flushes x 5.5 gpf	33.0	4 flushes x 5.5 gpf	22.0	5 flushes x 1.6 gpf	8.0
Shower	6 min x 4.0 gpm	24.0	4.5 min x 4.0 gpm	18.0	5 min x 2.0	10.0
Washer	12.5 gpcd	12.5	11.0 gpcd	11.0	11.5 gpcd	11.5
Kitchen	4.5 gpcd	4.5	4 gpcd	4.0	4 gpcd	4.0
Other	6 gpcd	6.0	4 gpcd	4.0	4 gpcd	4.0
Total (gpcd)		80		60		37.5
HCF per capita per year		39.0		29.0		18.0
<sup>1</sup> Reduced shower use results from shorter and reduced flow. Reduced washer use results from fuller loads. <sup>2</sup> Fixtures include ULF 1.6 gpf toilets, 2.0 gpm showerheads and efficient clothes washers.						

### **Water Shortage Stages and Triggering Mechanisms**

As the water purveyor, the Jurupa Community Services District must provide the minimum health and safety water needs of the community at all times. The water shortage response is designed to provide a minimum of 50% of normal supply during a severe or extended water shortage. The rationing program triggering levels shown below were established to ensure that this goal is met.

Rationing stages may be triggered by a shortage in one water source or a combination of sources. Although an actual shortage may occur at any time during the year, a shortage (if one occurs) is usually forecasted by the Water Department on or about April 1 each year.

The District's potable water sources are groundwater, Desalters, and imported. Rationing stages may be triggered by a supply shortage or by contamination in one source or a combination of sources. Because shortages overlap Stages, triggers automatically implement the more restrictive Stage. Specific criteria for triggering the District's rationing stages are shown in Table 13.

<b>Table 13 Water Shortage Stages and Triggering Mechanisms</b>			
<b>Percent Reduction of Supply</b>	<b>Stage I Up to 15%</b>	<b>Stage II 16 - 35%</b>	<b>Stage III 36 – 50%</b>
<b>Water Supply Condition</b>			
Current Supply	Total supply is 85 – 90% of “normal.” And Below “normal” year is declared.  Or	Total supply is 65 – 85% of “normal.” Or Below “normal” year is declared  Or	Total supply is 50 – 65% of “normal.” Or Fourth consecutive below “normal” year is declared.  Or
Future Supply	Projected supply insufficient to provide 80% of “normal” deliveries for the next two years. Or	Projected supply insufficient to provide 75% of “normal” deliveries for the next two years.  Or	Projected supply insufficient to provide 65% of “normal” deliveries for the next two years.  Or
Groundwater	No excess groundwater pumping undertaken.     Or	First year of excess groundwater pumping taken, must be “replaced” within four years.     Or	Second year of excess groundwater pumping taken, must be “replaced” within four years.     Or
Water Quality	Contamination of 10% of water supply (exceeds primary drinking water standards)	Contamination of 20% of water supply (exceeds primary drinking water standards)	Contamination of 30% of water supply (exceeds primary drinking water standards)
Disaster Loss			Disaster Loss

### **Water Allotment Methods**

The District has established the following allocation method for each customer type. See Appendix C for sample water shortage rationing allocation method.

Single Family	Hybrid of Per-capita and Percentage Reduction
Multifamily	Hybrid of Per-capita and Percentage Reduction
Commercial	Percentage Reduction
Industrial	Percentage Reduction
Gvt/Institutional	Percentage Reduction
Agricultural-Permanent	Percentage Reduction - vary by efficiency
Agricultural-Annual	Percentage Reduction - vary by efficiency
Recreational	Percentage Reduction - vary by efficiency
New Customers	Per-capita (no allocation for new landscaping during a declared water shortage.)

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Based on current and projected customer demand, Appendix C indicates the water allocated to each customer type by priority and rationing stage during a declared water shortage.

Individual customer allotments are based on a five-year period. This gives the District a more accurate view of the usual water needs of each customer and provides additional flexibility in determining allotments and reviewing appeals. However, no allotment may be greater than the amount used in the most recent year of the five-year base period.

The Operations Manager shall classify each customer and calculate each customer's allotment according to the Sample Water Rationing Allocation Method. The allotment shall reflect seasonal patterns. Customers shall be notified of their classification and allotment by mail before the effective date of the Water Shortage Emergency. New customers will be notified at the time the application for service is made. In a disaster, prior notice of allotment may not be possible; notice will be provided by other means. Any customer may appeal the Operations Manager's classification on the basis of use or the allotment on the basis of incorrect calculation.

## **Prohibitions, Consumption Reduction Methods and Penalties**

### **Law**

10632. The plan shall provide an urban water shortage contingency analysis, which includes each of the following elements, which are within the authority of the urban water supplier:

10632 (d) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.

10632 (e) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

10632 (f) Penalties or charges for excessive use, where applicable.

### **Mandatory Prohibitions on Water Wasting**

<b>Table 14 Consumption Reduction Methods</b>	
<b>Examples of Consumption Reduction Methods</b>	<b>Stage When Method Takes Effect</b>
Demand reduction program	All stages
Reduce pressure in water lines	
Flow restriction	III
Restrict will serve letters	II, III
Restrict for only priority uses	
Use prohibitions	All stages
Water shortage pricing	All stages
Per capita allotment by customer type	III
Plumbing fixture replacement	
Voluntary rationing	I
Mandatory rationing	II, III
Incentives to reduce water consumption	
Education Program	All Stages
Percentage reduction by customer type	II, III
Other	
Other	

See Appendix C, the Voluntary conservation Ordinance and Moratorium on New Connections - which details the reduction methods - regarding Table 14.

## **Excessive Use Penalties**

## **Revenue and Expenditure Impacts and Measures to Overcome Impacts**

### **Law**

10632. The plan shall provide an urban water shortage contingency analysis, which includes each of the following elements, which are within the authority of the urban water supplier:

10632 (g) An analysis of the impacts of each of the actions and conditions described in subdivisions (a) to (f), inclusive, on the revenues and expenditures of the urban water supplier...

10632 (g) [An analysis of the impacts of each of the] proposed measures to overcome those [revenue and expenditure] impacts, such as the development of reserves and rate adjustments.

All surplus revenues that the District collects are currently used to fund the Rate Stabilization Fund, conservation, recycling, and other capital improvements. The District estimated projected ranges of water sales by shortage stage to best understand the impact each level of shortage will have on projected revenues and expenditures by each shortage stage.

## **Reduction Measuring Mechanism**

### **Law**

10632. The plan shall provide an urban water shortage contingency analysis, which includes each of the following elements, which are within the authority of the urban water supplier:

10632 (i) A mechanism for determining actual reductions in water use pursuant to the Urban water shortage contingency analysis.

### **Mechanism to Determine Reductions in Water Use**

Under normal water supply conditions, potable water production figures are recorded daily. Totals are reported weekly to the Operations Manager and incorporated into the water supply report.

During a Stage I or Stage II water shortage, daily production figures are reported to the Supervisor. The Supervisor compares the weekly production to the target weekly production to verify that the reduction goal is being met. Weekly reports are forwarded to the Water Department Manager and the Water Shortage Response Team. Monthly reports are sent to the Board of Directors. If reduction goals are not met, the Manager will notify the Board of Directors so that corrective action can be taken.

During a Stage III water shortage, the procedure listed above will be followed, with the addition of a daily production report to the Manager.

During emergency shortages, production figures are reported to the Supervisor hourly and to the Manager and the Water Shortage Response Team daily. Daily reports will also be provided to the Board of Directors.

## **Water Recycling**

### **Wastewater System Description**

#### **Law**

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:

10633 (a) A description of the wastewater collection and treatment systems in the supplier's service area...

### **Participation in a Regional Recycled Water Planning**

### **Wastewater Treatment Processes**

A schematic diagram showing wastewater treatment is attached (Appendix D). Current wastewater treatment at the WTP includes the following processes:

- 1) Primary Sedimentation
- 2) Activated Sludge
- 3) Chlorination/Dechlorination or Ozonation
- 4) Wastewater Quality
- 5) Wastewater Disposal

### **Wastewater Generation, Collection & Treatment**

#### **Law**

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:

10633 (a) A [...] quantification of the amount of wastewater collected and treated...

### **Recycled Water Optimization Plan**

**LAW**

10633. The plan shall provide, to the extent available, information on recycled water and its potential for use as a water source in the service area of the urban water supplier. To the extent practicable, the preparation of the plan shall be coordinated with local water, wastewater, groundwater, and planning agencies and shall include all of the following:

10633 (f) A plan for optimizing the use of recycled water in the supplier's service area, including actions to facilitate the installation of dual distribution systems and to promote recirculating uses.

### **Plan for Optimizing the Use of Recycled Water**

The District currently is in the Master planning stage for reclaimed and or recycled water along reverse frontages, and various parks within the Districts boundaries, we have installed non-treated wells within various parks to reduce the demand for treated water in these areas.

## **APPENDIX A**

### **LIST OF GROUPS WHO RECEIVED COPIES OF THE DRAFT URBAN WATER MANAGEMENT PLAN AND OR COMMENTS**

Riverside County Board Of Supervisors  
Clerk of the Board  
P O Box 1147  
Riverside, CA 92502-1147

City Clerk City of Ontario  
303 E. "B" Street, Civic Center  
Ontario, CA 91764-4196

City Clerk City of Chino Hills  
2001 Grand Avenue  
Chino Hills, CA 91709

City Clerk City of Chino  
5050 Schaefer Avenue  
Chino, CA 91710-5549

City Clerk City of Norco  
2870 Clark Avenue  
Norco, CA 92860

Mr. Arnold Rodriguez  
Santa Ana River Water Company  
P O Box 61  
Mira Loma, CA 91752

Mr. John Rossi General Manager  
Western Municipal Water District  
P O Box 5286  
Riverside, CA 92517-5286

Librarian Glen Avon Public Library  
9244 Galena  
Riverside, CA 92509

J. Steven Williams, P.E.  
Department of Health Services  
1350 Front St. Room 2050  
San Diego, CA 92101

Mr. Richard Atwater  
Inland Empire Utilities Agency  
6075 Kimball Avenue  
Chino, CA 91720

Mr. Daniel Cozad  
Santa Ana Watershed Project Authority  
11615 Sterling Avenue  
Riverside, CA 92403

Mr. Gerald Thibeault  
RWQCB Santa Ana Region  
3737 Main Street, Suite 500  
Riverside, CA 92501

Mr. Dave Inouye  
Department of Water Resources  
770 Fairmont Avenue  
Glendale, CA 91203-1035

Dave Lopez General Manager  
Rubidoux Community Services District

## **List Of Groups Who Participated In The Development Of This Plan**

TBD, waiting on various Responses

## **APPENDIX B**

### RESOLUTION TO ADOPT THE DRAFT URBAN WATER MANAGEMENT PLAN

## **Resolution To Adopt The Urban Water Management Plan**







## **APPENDIX C**

### **JCSD's Water Shortage Information**

No Waste Ordinance  
Resolution To Declare A Water Shortage Emergency  
Moratorium On New Connections During A Water Shortage

## **No Waste Ordinance**





## **Resolution To Declare A Water Shortage Emergency**





## **Moratorium On New Connections During A Water Shortage**





## **APPENDIX D**

### **WATER RECYCLING INFORMATION**

Wastewater Treatment Processes and Parks irrigation information

## **District Boundary Map**